

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 17-18 are added. Claims 1-18 are pending in the application.

I. Objection to the Abstract

The abstract was objected to by the Examiner. In light of the Examiner's comments, the abstract has been amended.

II. Objection to the Specification

The specification was objected to. The term "inputted," as defined at both www.dictionary.com and in Merriam-Webster's online dictionary, can be interchanged with the term "input". The definition of both "inputted" and "input" is "to enter (as data) into a computer or data processing system." (Merriam-Webster). Accordingly, it is respectfully requested that this objection be withdrawn.

III. Rejection under 35 U.S.C. § 102

In the Office Action, at page 2, numbered paragraphs 3-18, claims 1-16 were rejected under 35 U.S.C. § 102(b) as being unpatentable over Wright et al. (Emulation of Modular Manufacturing Machines Using CAD Modeling). This rejection is respectfully traversed because Wright does not discuss or suggest:

uniting means for uniting the positional information of the plurality of machines received by said receiving means in the order of lapsing time in simultaneous operations of the machines using the lapsing time information in the operations of the plurality of machines received by said receiving means; and

display control means for simultaneously displaying modeled images of the plurality of machines on a display device by animation based on the positional information of the plurality of machines united by said uniting means to thereby simulate the simultaneous operations of the plurality of machines,

as recited in independent claims 1 and 9.

As a non-limiting example, the present invention as set forth, for example, in claim 1 is a simulation device that simulates the operation of a system. An operation program is executed in a machine to obtain operation command data of each of a plurality of machines. The command data includes lapsing time information and position information of the machines associated with

the lapsing time information. The data is thereafter collected and united by arranging the data in time series from a start of simultaneous operations of the machines. Images of three-dimensional models of the machines are displayed by animation based on the united historical data to simulate the operation of the system.

Wright discusses a system that “allow[s] execution of the control system without the mechatronic hardware elements present” (p. 714, paragraph 4, lines 9-10). In Wright, graphical models are constructed and the modeling tool “perform[s] machine emulations by driving the models with run-time data...used purely for on-screen visualization of machine behaviour...[and] functionality within the modeler provides for examination of sequence information” (p. 715, paragraph 7, lines 1-5). Wright further discusses a “graphical modelling tool for examining the control system data logs...[and] constructing graphical models of both the mechatronic elements within a machine and its operating environment, together with a mechanism for importing data logs and driving the model elements to perform machine emulation” (p. 721, paragraph 7, lines 3-7).

Wright does not, however, discuss or suggest providing operation programs to obtain lapsing time information of operations of a plurality of machines and positional information of the machines associated with the lapsing time information. The Examiner alleges that p. 716, paragraph 4 and p. 721, paragraph 5 correspond to a uniting means for uniting the positional information in the order of lapsing time, but Wright merely discusses data logging of handlers in a particular machine. Wright does not discuss or suggest that multiple operation programs for a plurality of machines are provided, nor does Wright discuss or suggest that positional information and lapsing time information of each of the machines is obtained. Wright discusses that a machine is emulated, but does not discuss or suggest that operation programs for multiple machines are provided. Wright does not discuss obtaining lapsing time information and positional information related to the lapsing time information for each of the machines and thereafter uniting the positional information of the machines in order of lapsing time, as recited in independent claims 1 and 9. Further, Wright does not discuss or suggest that modeled images of the plurality of machines are displayed simultaneously based on the united positional information of the plurality of machines. Wright merely discusses emulation of a machine, but does not discuss that numerous machines are simulated on a display in the order of lapsing time such that operations of the multiple machines can be simulated at the same time and the operations of the machines are simulated in order of lapsing time.

Therefore, as Wright does not discuss or suggest “uniting the positional information of the plurality of machines received by said receiving means in the order of lapsing time in simultaneous operations of the machines using the lapsing time information in the operations of the plurality of machines received by said receiving means,” and Wright does not discuss or suggest “simultaneously displaying modeled images of the plurality of machines on a display device by animation based on the positional information of the plurality of machines united by said uniting means to thereby simulate the simultaneous operations of the plurality of machines,” as recited in independent claims 1 and 9, claims 1 and 9 patentably distinguish over the reference relied upon. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

Claims 2-8 and 10-16 depend either directly or indirectly from independent claims 1 and 9 and include all the features of the respective independent claims, plus additional features that are not discussed or suggested by the reference relied upon. For example, claim 4 recites that “the simulation device is divided into a first simulating section having said operation program providing means, said receiving means and said uniting means; and a second simulating section having said display control means.” Therefore, as claims 2-8 and 10-16 are dependent from claims 1 and 9, respectively, claims 2-8 and 10-16 patentably distinguish over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

IV. New Claims

New claim 17 is directed to a simulating method which includes “executing operation programs specific to each of the machines to obtain lapsing time information and positional information associated with the lapsing time information for each of the machines; and simultaneously displaying modeled images of the machines based on the obtained positional information of each of the machines united in order of lapsing time to simulate simultaneous operations of the machines.” Nothing in the reference relied upon discusses or suggests such. It is therefore submitted that claim 17 distinguishes over the reference relied upon.

New claim 18 is directed to a simulation device which includes “a processing section executing operation programs specific to each of the machines to obtain lapsing time information and positional information associated with the lapsing time information for each of the machines; and a display simultaneously displaying modeled images of the machines based on the obtained positional information of each of the machines united in order of lapsing time to simulate simultaneous operations of the machines.” Nothing in the reference relied upon discusses or

suggests such. It is therefore submitted that claim 18 distinguishes over the reference relied upon.

Conclusion

In accordance with the foregoing, the specification has been amended. Claims 17-18 have been added. Claims 1-18 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.


Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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